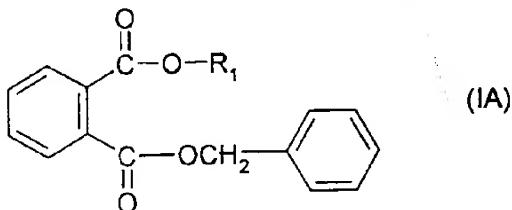


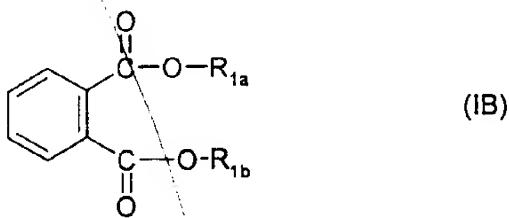
Claims:

1. A poly urethane/urea-forming casting composition that can be cast and cured at temperatures between 15 and 35°C comprising a reaction mixture of (a) an isocyanate component or an isocyanate functional prepolymer having at least two isocyanate groups per molecule that contains or has been reacted with polytetramethylene glycol; (b) an aromatic amine curative; and (c) a phosphate ester or phthalate ester having a vapor pressure of less than 100 mPa at 25°C.
2. A casting composition according to claim 1 wherein component (a) is a low free toluene diisocyanate prepolymer blend having a free toluene diisocyanate content below 0.4%.
3. A casting composition according to claim 2 wherein the reaction mixture comprises a prepolymer blend that is a reaction mixture of an organic diisocyanate and polytetramethylene glycol.
4. A casting composition according to claim 1 wherein the aromatic amine curative is selected from the group consisting of diethyl toluene diamine, tertiary butyl toluene diamine, dimethylthiobenzene diamine, , and 1,2-bis(2-aminophenylthio)ethane.
5. A casting composition according to claim 4 wherein the aromatic amine curative is dimethylthiobenzene diamine.
6. A casting composition according to claim 5 further comprising a polyether- and/or polyester polyol having a number average molecular weight of at least 250.
7. A casting composition according to claim 1 wherein the phosphate ester or phthalate ester is represented by formulae (IA), (IB), (IIA), (IIB) or (III):

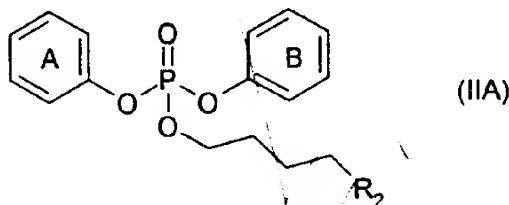


wherein R₁ is unsubstituted or alkyl-substituted C₃-C₁₂alkyl.

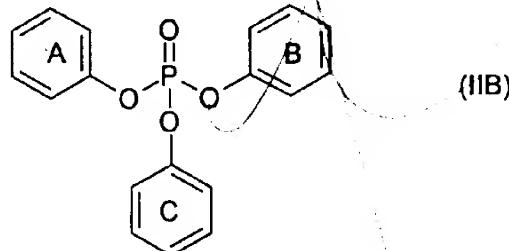
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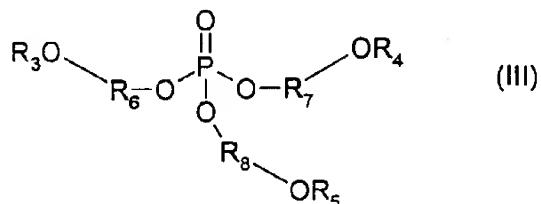
wherein R_{1a} and R_{1b}, independently of one another are unsubstituted or alkyl-substituted C₅-C₁₂alkyl;
or phosphate esters according to formulae (IIA) and (IIB)



wherein R₂ is hydrogen or unsubstituted or alkyl-substituted C₂-C₆alkyl, and aromatic rings A and B independently of one another can have one or more alkyl substitutions;



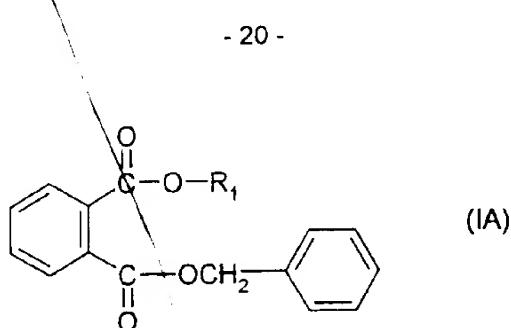
wherein aromatic rings A, B and C independently of one another can have one or more alkyl substitutions,
or formula (III)



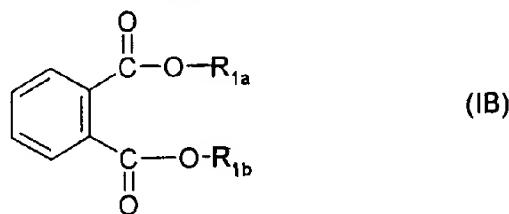
wherein R₃, R₄, R₅, independently from one another, are unsubstituted or alkyl substituted C₁-C₅ alkyl and R₆, R₇ and R₈ are independently of one another are unsubstituted or alkyl-substituted C₁-C₅alkylene.

8. A casting composition according to claim 1 wherein component (c) is tributoxyethyl phosphate or isodecyl diphenyl phosphate.
9. A casting composition according to claim 5 wherein component (c) is tributoxyethyl phosphate or isodecyl diphenyl phosphate.
10. A cast polyurethane obtainable by a process comprising reacting (a) an isocyanate component or an isocyanate functional prepolymer having at least two isocyanate groups per molecule that contains or has been reacted with polytetramethylene glycol; (b) an aromatic amine curative; and (c) a phosphate ester or phthalate ester having a vapor pressure of less than 100 mPa at 25°C.
11. A polyurethane casting according to claim 10 wherein component (a) is a low free toluene diisocyanate prepolymer blend having a free toluene diisocyanate content below 0.4%.
12. A polyurethane casting according to claim 11 wherein component (a) is a prepolymer blend resulting from a reaction mixture of an organic diisocyanate and polytetramethylene glycol.
13. A polyurethane casting according to claim 10 wherein the aromatic amine curative is selected from the group consisting of diethyl toluene diamine, tertiary butyl toluene diamine, dimethylthiotoluene diamine, and 1,2-bis(2-aminophenylthio)ethane.
14. A polyurethane casting according to claim 13 wherein the aromatic amine curative is dimethylthiotoluene diamine.
15. A polyurethane casting according to claim 14 wherein the process further comprising combining a polyether- and/or polyester polyol having a number average molecular weight of at least 250 with components (a), (b) and (c).
16. A polyurethane casting according to claim 10 wherein the phosphate ester or phthalate ester is represented by formulae (IA), (IB), (IIA), (IIB) or (III):

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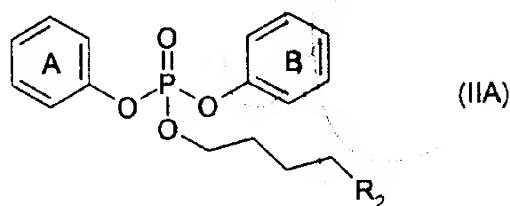


wherein R_1 is unsubstituted or alkyl-substituted C_3-C_{12} alkyl,

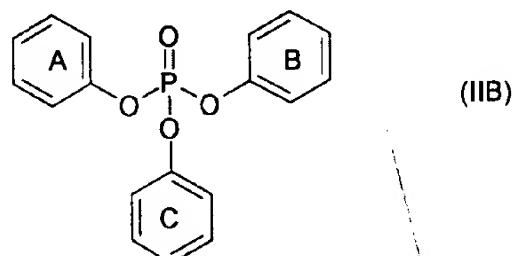


wherein R_{1a} and R_{1b} , independently of one another are unsubstituted or alkyl-substituted C_5-C_{12} alkyl,

or phosphate esters according to formulae (IIA) and (IIB)

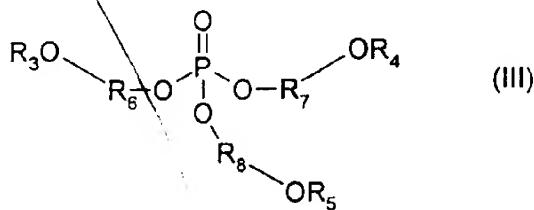


wherein R_2 is hydrogen or unsubstituted or alkyl-substituted C_2-C_6 alkyl, and aromatic rings A and B independently of one another can have one or more alkyl substitutions;



wherein aromatic rings A, B and C independently of one another can have one or more alkyl substitutions,
or formula (III)

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wherein R₃, R₄, R₅, independently from one another, are unsubstituted or alkyl substituted C₁-C₅ alkyl and R₆, R₇ and R₈ are independently of one another are unsubstituted or alkyl-substituted C₁-C₅alkylene.

17. A polyurethane casting according to claim 10 wherein component (c) is tributoxyethyl phosphate or isodecyl diphenyl phosphate.

18. A polyurethane casting according to claim 14 wherein component (c) is tributoxyethyl phosphate or isodecyl diphenyl phosphate.

19. A process for curing a poly urethane/urea-forming composition according to claim 1 comprising contacting said poly urethane/urea-forming composition at a temperature between 15 and 35°C with (a) an aromatic amine curative having at least two primary amine groups; and (b) a plasticizer having a vapor pressure of less than 100 mPa at 25°C with said poly urethane/urea-forming composition.

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